What is claimed is:

1. A method for financial estimation, comprising:

(a) providing a portfolio of financial instruments having a schedule of payment times;

(b) generating a plurality of interest rate scenarios by Monte Carlo simulation using a stochastic term structure;

(c) calculating, for each financial instrument; a set of financial outcomes using a subset of interest rate scenarios;

(d) interpolating, from the sets of financial outcomes, a first function that estimates the aggregate value of the portfolio when sampled at the payment times with an aggregate principal of the portfolio and a first interest rate scenario;

(e) providing a second function that estimates a value for a financial instrument from the portfolio when sampled at the payment times using a second rate scenario;

(f) using an interest rate scenario from the plurality of interest rate scenarios, calculating a value of the second function for each financial instrument in the portfolio and a value of the first function to estimate, respectively, a value for the portfolio and an aggregate value for the portfolio, and;

(g) forming a control variate base upon the estimated value of the portfolio, the estimated aggregate value of the portfolio, and an expected value of the aggregate value of the portfolio.

2. The method of claim 1, further comprising:

repeating steps (e) through (g) and averaging the resulting control variates to estimate a value for the portfolio.

3. The method of claim 2, wherein the interest rate scenarios used in the repetition of steps (e) through (f) do not belong to the subset of interest rate scenarios used in step (c).

4. The method of claim 3, wherein step (d) comprises deriving an average prepayment for the portfolio as a function of the interest rate, deriving a third function giving the cashflow not resulting from prepayments for the portfolio as a function of the principal of the portfolio, and deriving a fourth function giving the principal of the portfolio at an *(i + 1)th* payment time based upon the change in principal predicted by the value of the average prepayment for the portfolio at an *ith* payment time.

5. The method of claim 4, wherein the aggregate principal at the *(i+1)th* payment time is given as the value of the fourth function minus the product of fourth function times the average prepayment at the *ith* payment time.

6. The method of claim 5, wherein an aggregate cashflow at the *ith* payment time is given as a sum of the third function and the product of aggregate principal times the average prepayment at the *ith* payment time.

7. The method of claim 6, wherein the first function is a function of the aggregate cashflow.

8. A method for financial estimation of a portfolio of financial instruments, comprising:

(a) providing a first function giving an aggregate value for the portfolio;

(b) providing a second function giving a value for a financial instrument within the portfolio;

(c) using an interest rate scenario, calculating a value for the portfolio using the second function and the aggregate value for the portfolio using the first function;

(d) forming a control variate based upon the value for the portfolio, the aggregate value for the portfolio, and an expected value of the aggregate value for the portfolio.

9. The method of claim 8, wherein the first function gives an aggregate value for the portfolio as a function of an aggregate principal of the portfolio and an interest rate scenario.

10. A computer program product that includes a computer-usable medium, the medium having stored thereon a sequence of instructions which, when executed by a processor, causes the processor to execute a process for financial estimation, said process comprising:

(a) providing a portfolio of financial instruments having a schedule of payment times;

(b) generating a plurality of interest rate scenarios by Monte Carlo simulation using a stochastic term structure;

(c) calculating, for each financial instrument; a set of financial outcomes using a subset of interest rate scenarios;

(d) interpolating, from the sets of financial outcomes, a first function that estimates the aggregate value of the portfolio when sampled at the payment times with an aggregate principal of the portfolio and a first interest rate scenario;

(e) providing a second function that estimates a value for a financial instrument from the portfolio when sampled at the payment times using a second interest rate scenario;

(f) using an interest rate scenario from the plurality of interest rate scenarios, calculating a value of the second function for each financial instrument in the portfolio and a value of the first function to estimate, respectively, a value for the portfolio and an aggregate value for the portfolio, and;

(g) forming a control variate base upon the estimated value of the portfolio, the estimated aggregate value of the portfolio, and an expected value of the aggregate value of the portfolio.

11. The method of claim 10, further comprising:

repeating steps (e) through (g) and averaging the resulting control variates to estimate a value for the portfolio.

12. The method of claim 11, wherein the interest rate scenarios used in the repetition of steps (e) through (f) do not belong to the subset of interest rate scenarios used in step (c).

13. The method of claim 12, wherein step (d) comprises deriving an average prepayment for the portfolio as a function of the interest rate, deriving a third function giving the cashflow not resulting from prepayments for the portfolio as a function of the principal of the portfolio, and deriving a fourth function giving the principal of the portfolio at an $(i + 1)th$ payment time based upon the change in principal predicted by the value of the average prepayment for the portfolio at an *ith* payment time.

14. The method of claim 13, wherein the aggregate principal at the *(i+1)th* payment time is given as the value of the fourth function minus the product of fourth function times the average prepayment at the *ith* payment time.

15. The method of claim 14, wherein an aggregate cashflow at the *ith* payment time is given as a sum of the third function and the product of aggregate principal times the average prepayment at the *ith* payment time.

16. The method of claim 15, wherein the first function is a function of the aggregate cashflow.